

VIRGINIA WILDLIFE

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Photo by Harold M. Lambert Studios

A sure sign of spring is this blossoming cherry tree, photographed at the peak of beauty.

VIRGINIA WILDLIFE

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COMMONWEALTH OF VIRGINIA

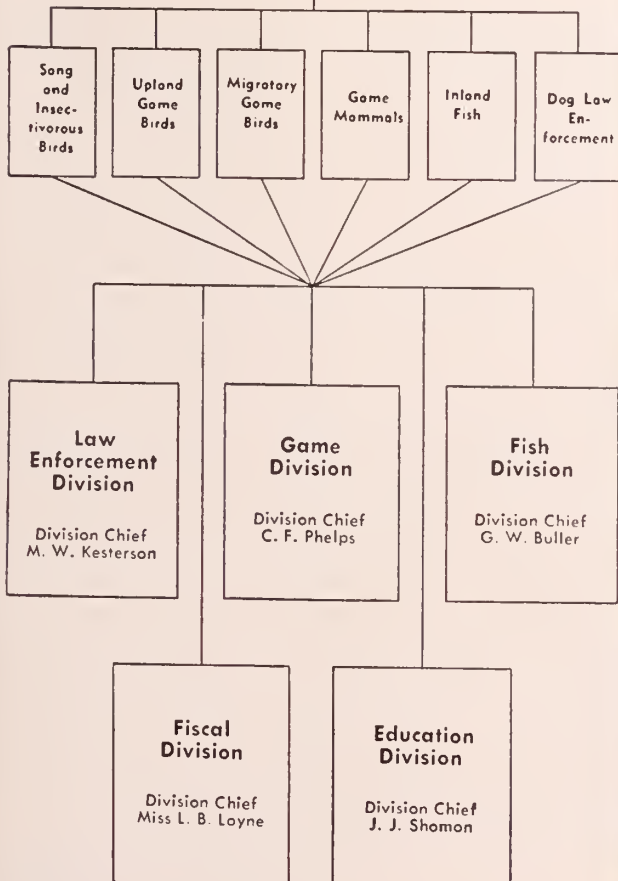


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Cover Photo

L. G. Kesteloo, Commission photographer, worked hard to get this unusual picture of a tree toad ready to jump.

VIRGINIA WILDLIFE gratefully receives for consideration all news items, articles, photographs, sketches and other materials which deal with the use, management and study of Virginia's interrelated, renewable natural resources:

WILDLIFE

SOILS — CONSERVE — WATER

FORESTS

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THE TRUE MEANING OF CONSERVATION

THE TERM CONSERVATION has a big meaning. It is true that Webster says that to conserve is to protect, to save, but this is the more obsolete meaning. The more modern definition is "keeping conditions sound or unimpaired." We might call it leaving to others what we ourselves enjoy. Conservation is opposite of extravagance, of exploitation; it is opposite of waste and squander; it is a semblance of good manners to the ways of nature, our fellow men, God.

Just a little over 300 years ago—a mighty short space of time in a world known for only 9000 years of organized society but eons of geologic time—America was an Eldorado of plant and animal life. Vegetation covered the continent. In the rainbelt areas virgin forests stood in majestic glory. Some trees, like the sequoias, grew well past the remarkable ripe age of 5000 years; others simply got old and weak and toppled over in the wind. Where rainfall was less, the earth was carpeted with prairie grasses and sedges and chaparral which, like the forests of the coastal areas and other wet zones, helped to bind Mother Earth together and keep it from being washed away by rainfall and lost forever to the sea. If we could have been alive then, as were such famous explorers as Raleigh, John Smith, La Salle, Clarke, and others, we too would have seen the streams running cold and clear and evenly, and teeming with fish. Floods and droughts and pestilence were things yet to be experienced.

Our forefathers had no idea of how quickly an expanding human population could outdo the supplies of natural resources. Few, very, very few, indeed, had any idea of safeguarding for the future these life-sustaining supplies. Why should they? Were not these things "limitless?"

Well, we know better today. We know that a different course should have been followed. We know the story now—the denuded and cutover and burned forests, soil wasted and sapped of its strength, water muddied and poisoned and uncontrolled, wildlife persecuted and hunted and destroyed to the tune of already numerous extinct species, new and constant danger to others.

Generations ago citizens knew little about the complex laws of nature—the multiple ties between all living life and between living life and the less animate things like soil, which showed that an unhealthy condition in one segment of nature would eventually do harm to all others. At the turn of the present century scientific forestry was a new concept; lumber was still cheap and plentiful; soil and water problems

were hardly recognized as national problems; guns and new ammunition and the horseless carriage had not yet made too severe inroads on our wildlife; few people had ever thought of land management, forest fire control, game refuges, soil classification, climatic changes in relation to land use; furthermore, the word conservation had but a vague meaning, nothing like what it is known today.

Then came men like Teddy Roosevelt, Pinchot, Colonel Greeley, Fearnow, Leopold, Bennett, Gabrielson—men with visions who sacrificed themselves for a cause, for a crusade to make America wise resource use conscious—and the era of a new type of thinking began.

The true and broad meaning of conservation should, basically, be made part of the awareness of every man, woman, and child in daily life. To understand how a tree grows or how the water table works in the ground or how animal life is involved in the complex order of things is as important in basic education as the ability to read, write, and do arithmetic. Youngsters should be familiar with the bedrock principles of conservation, otherwise, they may grow up completely ignorant of the very things that make life worthwhile.

These things, these fundamental principles are as important in education as learning the basic three R's.

Yes, young people, in fact all of us, must learn the relations between air, sunlight, plants, animals, minerals, water, and man. They must realize that man can work with nature, not against her. Youngsters must be taught that democracy is a system of government by the will of the people and that the good of everyone must transcend what is good for the individual. The concept of greatest good for the greatest number for the longest time must be applied to everyone and everything—including our resources—if we are to keep our way of life.

Through eons of time, nature had done a superb job of maintaining order and harmony in America without interference from man. America was God-blessed with natural wealth. A rich empire was created. It grew out of the sun and substance of the good earth itself. But in the process nature's harmony has been upset. After three hundred years of recklessness this balance has reached dangerous proportions. It should be the will and the ever-increasing aim of all citizens to restore as much of this balance as possible. For it is only in that balance—in that God-given order—where we can ever hope to find our great destiny as a nation.—J. J. S.



The dog is the chief distributor of the rabies virus, and some counties in Virginia have passed ordinances making it compulsory that all dogs be vaccinated against rabies before they can be licensed.

The truth about **RABIES**

By MACK I. SHANHOLTZ, M.D.
State Health Commissioner

(Commission staff photos)

DURING the year 1951, Virginia had its highest incidence of rabies since 1944, with a total of 223 cases of animal rabies reported. Sections which were especially hard hit included Fauquier and Loudoun counties in northern Virginia; Lee, Washington, and Wythe counties in the southwest; and Richmond city.

Rabies is a deadly disease. It is spread chiefly by dogs, but man and all other warm blooded animals are susceptible.

Rabies has been recognized and feared in Europe and Asia since early history. In ancient times, when many things were reckoned by the stars, a period of summer was determined by the rise of the Dog Star, Sirius. At this time madness in dogs was believed to be most prevalent, hence the legendary warning to beware of "dog days"—July and August. Actually this ancient belief is without basis. Rabies incidence is highest in the late winter and spring, although it occurs in every season.

The dog is the chief distributor of the rabies virus. Of 223 animal heads found positive in Virginia in 1951, 115 were dogs, 18 cats, 62 foxes, 25 cows,

1 mule, 1 rabbit, and 1 rat. Inasmuch as the dog is the main source and since as household pets they come in close contact with man, control of rabies is primarily connected with dogs.

Rabies in man is rare compared to its widespread prevalence among other animals. The following table shows a comparison of the number of cases in animals and in man during the past decade in the United States and Virginia:

	Animals		Man	
	U. S.	Va.	U. S.	Va.
1938	9,365	55	47	3
1939	8,284	66	30	0
1940	7,210	97	28	0
1941	7,847	54	30	1
1942	7,137	89	28	0
1943	9,649	277	41	1
1944	10,487	334	53	1
1945	9,928	113	35	1
1946	10,850	108	22	1
1947	8,920	162	26	2
1948	8,495	158	13	0
1949	7,587	82	10	0
1950	7,901	94	12	0
1951	223	0

In 1947, two deaths from rabies occurred in

Virginia. One death from rabies was reported in the State each year from 1943 to 1947.

It is difficult to estimate the wild game loss which may be blamed on rabies. Reported figures, of course, indicate only a provable minimum, and chances are very much against detecting rabies in wild animals, because the brain of each animal must be examined in a laboratory to determine if the animal died of rabies. In the Fauquier county section, it has been estimated that at least 50 cattle were lost to the disease during 1951.

Rabies is caused by a virus so small that 254,000 end-to-end would make only an inch. This virus, once implanted in nerve tissue, propagates itself until it takes over the brain and the entire nervous system. No case is on record where eating meat or drinking milk of an infected animal has caused rabies. The virus must be passed through a bite or wound to perpetuate the disease.

Rabies occur in two forms, furious and dumb, although the disease is the same.

Animals affected by the vicious or furious type are nervous and excitable in the early stages and will run away or shy at the slightest noise. They wander many miles and at certain times will attack any man or animal that happens to cross their path. If they do not die in a spastic fit in this stage, they always pass into the dumb stage before death.

Animals affected with the dumb type usually do not wander from home or attack other animals.

Portions of the canine-brain tissue, in which Negri bodies are found, are separated out for microscopic examination to determine if the dog had rabies.



The head of a suspected rabid dog is removed from the metal shipping container at the State Health Department Laboratory. An assistant handles head with rubber gloves, while J. Robert Anderson, director of the Bureau of Health, looks on.

Paralysis sets in early. The jaws gape, swallowing becomes painful and impossible, and they stop eating. Saliva drips from the mouth. Within two or three days the paralysis increases to such a degree that the animal falls into a coma and dies. Persons may become infected from this type in their attempt to treat the sick dog, believing it ill from some other disease.

Animals suffering from rabies are without fear. Rabid wild animals such as foxes or skunks will enter farm premises and fearlessly attack domestic animals and man. The disease apparently makes them insensible to pain, and blows or gun shots do not frighten them.

Many strange accounts of the boldness and viciousness of rabid animals have appeared. Early in December of last year near Haymarket in Prince William county, a fox attacked a farmer tending his cattle in the field. The farmer kicked the fox, slipped on the ice and snow, and the fox "rolled on him" and bit him. The fox also bit another man who was with the farmer before the two men were able to kill it. At about the same time, a rabid fox chased two girls off the tennis court into a building at Foxcroft School near Middleburg; then attacked and bit on the heel a girl seated at a piano.

Another characteristic of rabid animals is the



Microscopic examination of the dog's brain tissue is necessary to determine whether or not there is evidence of rabies. Rabies virus is so small that 254,000 end-to-end would make only one inch.

tendency on the part of the animal to chew hard objects such as chips of wood or rocks. Horses and cattle will be nervous and excitable and bite their stalls or mangers sometimes hard enough to break their teeth. Cats and dogs bite or try to chew bits of glass or stones.

The human victim of rabies usually develops the first signs of restlessness and jumpiness within ten days, although this period may be as long as a year. Following these first signs, the disease progresses with spasms, labored breathing, and hallucinations. Sight or mention of water provokes more intense convulsions and frothing and the victim cannot eat. Gradually paralysis comes over his body and he dies, usually about two days after the first signs appeared.

Rabies is contracted chiefly through bites. While waiting for a physician the wound caused by a dog bite or scratch should be washed immediately with soap and water, and bleeding should be encouraged. This removes most of the saliva including the virus if the animal has rabies. The physician will decide whether further local treatment is needed and whether the vaccine treatment should be given.

DO NOT KILL THE ANIMAL. When rabies is prevalent in a community any dog that has bitten a person should be locked up for a period of at

least ten days, either on its owner's premises, in a veterinary hospital, or a dog pound. This allows time for observation of signs of rabies and also prevents the animal's escape if it does have the disease. An animal with rabies usually dies in a few days.

If the animal dies, or must be killed, ship its head to the state laboratory for microscopic examination of the brain. It is usually possible to determine in the laboratory whether the dog had rabies.

It must be remembered, however, that even if the biting dog appears to have rabies it should not be killed unless necessary. During the early stages it is often impossible to make a diagnosis of rabies, even by microscopic examination of the brain. On the other hand when the animal is allowed to die naturally of the disease, it is usually possible to determine rabies quickly in the laboratory.

When the dog dies naturally from rabies or when it is suspected of rabies and killed, rubber gloves should be used in cutting off the head. Ship the severed head promptly to the laboratory by Pre-paid Express. The best method is to put the head in a metal container and then to enclose this container in a large bucket filled with ice. Dry ice should not be used for packing. Freezing delays examination till the head is thawed out, and breaks up nerve cell and Negri (rabies virus) bodies.

Mark the package "Rush—Rabies Suspect" and

(Continued on page 13)

When an epizootic of rabies became apparent in Fauquier County in March, 1951, a series of free canine-anti-rabies vaccination clinics were located in strategic areas for the convenience of dog owners.





The fog was heavy and they could see nothing, as Eppy recalled that not too far below the planned landing point there was a big dam and the falls.

Away, You Rolling River!

By KENNEDY LUDLAM

IT WAS ALL Colonel Pete's idea in the first place. He had the raft, he had—supposedly—the know-how, and most important, he had access to Army Engineers data on the condition of the river, a matter definitely to consider when planning a float trip on the old Shenandoah in October. Pete is a great organizer, likes to get everything down on paper, and we spent several weeks planning everything down to the minutest detail. We'd need two cars, a lantern, (just in case something happened—of course nothing would!), spinning gear for the old masters, simple casting tackle for me—the reactionary, rations, waders, and finally the raft. It was one of those seven-man surplus jobs, and I had a prickling feeling under my hair when I thought of the amount of puffing and blowing it would take to pump the silly thing up. Oh, well, I make a living

such as it is dealing in hot air on the radio, so I figured that was the reason I was invited along. Not being a spinning devotee, I felt a bit out of place otherwise.

After weeks of planning, a series of lectures from Pete on the habits of Shenandoah small-mouth, and several postponements owing to high water, the day was set. All our schedules jibed. Harold and I were off that day, Eppy was off at 9:00 a. m., and Colonel Pete was temporarily a man of leisure. We all met at Seven Corners with the two cars and the gear and took off for Front Royal. There the first hitch in the organization showed up. Pete had a road map, but we found directly that what was needed was a county map that showed the cow-paths.

Some study of the map showed a likely spot

where a road seemed to go down to the water, and off we went again in search of it. One of the nicest fellows in the world lived at the end of the road right alongside the river bank, and he gave us permission to park on his property, and make ourselves at home. He said he was a farmer who raised pigs, but I never saw anyone who looked less like a piggery proprietor. There was a nice modernistic house to windward of the piggery, and inside the house, a library from floor to ceiling crammed with pithy paragraphs pertaining to pork. Presently, we repaired to the river bank and surveyed the possibilities of spotting it from the stream when we floated by. There seemed to be no prominent landmark anywhere in the vicinity, and the bank itself was a regular jungle of muddy flood-drift. It looked a bit desolate to me. I'm used to the clean woods of the mountains with clear, rocky streams, and this slow-moving, lazy river promised trouble rather than fun. We finally erected a sort of marker by draping the better part of a whole box of kleenex over a big, brushy snag next to the bank. Then back to the farm house and the cars, where we transferred some dry clothes into Eppy's bus, which we left there.

Hitting the highway again, Pete drove us approximately four and a half miles upstream and back into the woods to an old concrete bridge across the river. It was a very low bridge—almost a ford—with a couple of inches of water running over the top. The closer we got to the embarkation point, the lower I felt thinking about inflating that raft. I couldn't see any CO₂ cylinders any where about, or any pumps either, and the raft began to look larger and larger until it seemed to cover almost an acre as we finally unloaded it and spread the contraption out on the ground. Sure enough, Pete called me over. "Harold and Eppy want to get the kinks out of their lines," he announced. "While they're doing that, we'll inflate the raft." I must have looked as I felt, 'cause Pete started to laugh. I saw why directly. He had some sort of gadget, one end of which went over the exhaust pipe of the car while the other end plugged into the raft. A couple of minutes of idling the motor, and there she was—round, plump, and fit to run the rapids of any river. I felt much better; not a bit tired either!

Meanwhile, Harold and Eppy were standing out in the middle of the bridge letting their lines drift downstream until the reels were bare. Not being a spinner, as I said, I didn't get the purpose of all

this till it was explained. Spinning monofilament develops twists and kinks every so often, and they have to be taken out. The most convenient way is to do just as Harold and Eppy were doing—let the whole line unreel in the current and untwist as it goes. Pete, true to the military tradition, inspected the part before shoving off. Harold and Eppy had wool shirts, slacks, plastic waders and army surplus boots. I was wearing a suit of surplus coveralls with hip boots and a windbreaker, but Pete—who's apparently 9/10's eskimo—wore only shirt, shorts, and a jacket together with a pair of sneakers. Rugger feller, Pete.

A seven-man life raft can comfortably hold three fishermen. I was the fourth. Also, I had casting tackle, which meant bulky lures, and since no heavy tackle-boxes were allowed, I had quite a time deciding what to select to put in my pockets. I finally decided on a few old tried and true favorites—a red headed floating river runt, a bronze bassmaster sinker, and a few Johnson silver minnows in assorted sizes with a bottle of pork rind.

It was an easy matter boarding the raft from the bridge. We just stepped off the bridge up into the raft, and once aboard, I started to change my idea of raft travel. It was wonderful—like lying on a foam mattress, all soft and comfy-like, with no work at all. Just lying there and letting the current carry you downstream seemed too good to be true. It was.

As soon as we got underway, everybody but me started fishing enthusiastically, and about the third cast, Eppy got snagged under water. We heaved out the anchor—a concrete filled section of old pipe—and waited while he waded back and unhooked himself. The river's pretty shallow in most places, and wading's not too hard. Then away we went once more. For a while I was content to watch the others casting and reeling, and casting again. The weather continued mild and pleasant, although the overcast was thickening a bit. Most of the time, the current kept us out in the middle of the river so we could try first one side and then the other. We got into the water around noon, and figured to be opposite our getting-out point about four thirty in the afternoon. A nice 4½ hours of lazy drifting. What a wonderful feeling! No worry about sails, motor, gas, rowing—just one direction to go, and nature to carry us along in the sunshine. The happy dreams didn't last long, nor

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The First Hundred Years of Conservation in “Old Virginia”



Recreations of gentlemen in Virginia in 1619. Included in their recreations were chasing stag, fishing, fowling, and falconry.

By HARRISON MANN

In the January issue of VIRGINIA WILDLIFE there appeared the statement that “The first state to enact a law for game was New York in 1791. The Commonwealth of Massachusetts in 1818 forbade ‘the wanton destruction of useful and profitable species.’” The author of this article wrote to us shortly thereafter, “I come to the honor of the Old Dominion as a champion of conservation, perhaps the earliest champion of conservation in the New World. There are few things that one has to go outside of our state to seek and laws protecting game, setting forth the first limitations on hunting and fishing and placing bounties on predators, are not one of them.”—Ed.

(Pictures courtesy Virginia State Library)

TO MOST IT WILL come as a startling fact that in a new country abounding in game it became necessary as early as the 17th century for Virginians to enact laws for the protection of deer. Maryland and other states followed with similar laws just a few years later.

Many of us are prone to feel when faced with game management problems, as well as other problems, that we are the first people called upon to provide a solution. It is hard to realize that other peoples in other times were faced with the self-same problems and puzzled over the proper remedies; that in fact there is nothing new except what is forgotten.

To the inquisitive the statutes are a reflection of the needs and desires of a people at any given point in history. The need for game laws in Virginia arose only thirteen years after the Colonists held their first Assembly. As Hening, the compiler of Virginia's early statutes from which the following ma-

terial was taken, states, “Whether I shall render an acceptable service . . . in furnishing the only authentic materials . . . which displays alike the virtues and vices, the wisdom and follies of our ancestors, I am at a loss to conjecture”.

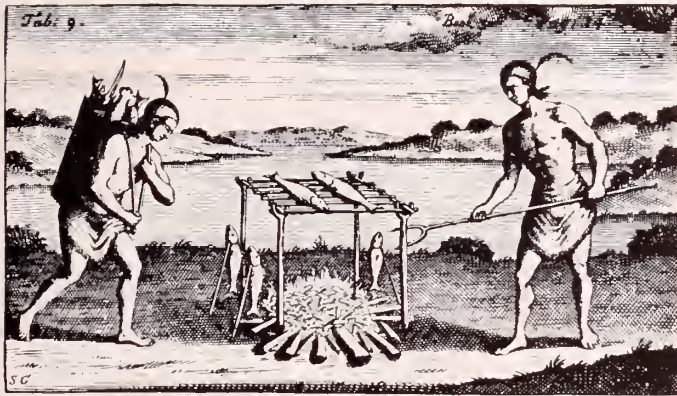
Virginia, true to the historical pattern of game management, first began its efforts in the control of the hunting factor. In September 1632 the Grand Assembly “holden at James Citty” provided that “Noe man shall kill any wild swyne out of the forest or woods, except in his (land) or dividant, without leave or lycense from the Governor. But it is thought convenient that any man be permitted to kill deare or other wild beasts or fowle in the common woods, forest or rivers . . . whosoever shall kill a wolfe, and bringe in his head to the commander, it shall be lawfull for such person or persons for every wolfe soe kild, to kill also one wild hogg and take the same for his owne use.”

The killing of “wild hogs” without a lycense

from the Governor was enough of an offense to bring the culprit before the Governor and Council for censure.

How long this "wild swyne" law remained on the books is difficult to say, for the early statutes of Virginia, as collected by Hening, are not complete. In fact, there is no real assurance that Virginia game laws may not have anti-dated 1632, for little escaped the regulation of the Colonial fathers. In the hundred years from the first Assembly, Virginia legislated an OPS, an AAA, burned crops to keep up prices and levied its first "pol" tax in October 1629.

As early as 1639 it was found necessary to pass



The Indians cookery was nothing commendable, but it was performed with little trouble. They had no other sauce but a good stomach, which they seldom wanted.

an act enjoining the public "not to shoot or hunt on other men's land that is seated and bounds marked under penalty of 40s but may pursue deer and shoot on their own land."

In the year 1642 the Assembly decreed "that if any planter or person shall hunt or shoot upon or within the precincts or lymitts of his neighbor . . . without leave first obtained for his soe doing, and having been warned by the owner of the land to



Indians stalked their deer in 1564 by putting on deer skins with the heads still on. Thus they approached closely to the unsuspecting deer and killed them.

forbare hunting . . . he or they soe offending shall forfeit for everee such offence foure hundred pounds of tobacco, the one halfe to the owner of the land, the other halfe to publick uses . . . provided also that it shall be lawful for any person having shott a deare or other game without the lymitts of any man's land to pursue the said deare into the dividint of another man, and freely to carry away the same without any trespass . . ."

About this time the shooting of guns in the Colony became quite a problem, not unlike the shooting of firecrackers today. Stringent laws had to be passed against the promiscuous firing of firearms at "drinkings", weddings excepted. Later only "buryalls" were excepted. The need, of course, was to distinguish between alarms given by Colonists who were attacked by Indians and drunken firing. The Indian menace became so bad in 1645 that a law was passed against hunting "in the woods".

The first provision for carrying your license with you was made applicable to the Indians in 1656. In that year it was decreed "that no Indian come within our fenced plantation without a tickett . . . or haveing a tickett they may fowl, fish or gather wild fruits . . ."

The following act of 1661 for the "reliefe of the poore Indians" will also be of interest to those who believe that the white man kicked the Indians around indiscriminately: "And be it further enacted that for the better reliefe of the poore Indians whome the seating of the English hath forced from their wonted conveniences of oystering, fishing and gathering of tuckahoe, cuttyemniions or other wild fruits . . . be it granted . . . that the said Indians upon addresse made to two of the justices of that county . . . that the said justices shall grant a lycense to said Indians . . ."

Evidently farmers had just as much trouble in 1657 as they do today with trigger-happy hunters who shoot at anything that moves. It became necessary even then to provide that if the hunter injures any man's horses, mares, hoggs, goates or cattel he shall make satisfaction."

After 1632 there were many acts granting bounties for the killing of wolves. The wolf menace having subsided in 1670 the acts rewarding the killing of wolves were again repealed, including the law which gave a cow to "the King or Great Man" for every eight wolfheads brought in by the Indians. In 1691 the Assembly recited that it having been "found by frequent experiences" that "their best endeavors and industry to destroy them (wolves)

having been taken away they have and do greatly increase in numbers." As a result, a new bounty of 300 pounds of tobacco was given for each head.

It requires very little imagination to envision the debates which must have taken place, as they do now, over whether predator bounties actually accomplish anything. Evidently the old Virginians concluded that they did, for forty years later they gave the first bounty for crows, as well as squirrels.

The first game law regulating the "strikeing and killing of fish at unseasonable times" was passed in June 1680. "The inhabitants and freeholders of the severall counties of Gloster, Middlesex and Lancaster . . . complaining that the strikeing and killing of fish with giggs, and harping irons, is very prejudiciall, injurious, and destructive to themselves in perticular, and the whole country in generall . . . Bee it therefore enacted . . . that from henceforth it shall not be lawful betwixt the first day of Aprill, and the first day of November for any person or persons whatsoever to kill or strike any fish whatsoever within the bounds and limits on the waters or shoars of Gloster County, Middlesex County or Lancaster County, with gigg . . . etc."

The penalty for violation was 500 pounds of tobacco, half to go to the informer. Evidently gigg laws were just as hard to enforce then as now, and a few years later the prohibition was repealed.

If the conservationist isn't satisfied with the efforts of his forebears up to this time, the Grand Assembly in April 1699 made it up to him. The preamble to "An act prohibiting the unseasonable killing of Deer" is enough to warm the heart of a conservationist anywhere. It reads, "Whereas the Deer of this his majestyes colony and dominion is very much destroyed and diminished by the unseasonable killing them when poor and of Does bigg with young to the great detriment of the inhabitants . . . without bringing any considerable benefit to those that kill them, be it enacted (etc.) that from after the first day of February next ensuing no person or persons shall shoot or kill any Deer running wild . . . between the first day of February and the last day of July . . ."

The penalty for violation was 500 pounds of tobacco, and the prohibition included the buying of deer between those dates from any Indian. For slaves and others who could not pay, "on their bare back thirty lashes well laid on." Perhaps the latter treatment would be effective today, with no fines allowed.

In October 1705 the Assembly decided to



Washington is reported to have hunted foxes in Virginia with Lord Fairfax, and the incident is illustrated here in a drawing by F. O. C. Darley.

strengthen the deer law and closed the season between January 1st and the last day of August. It also provided that part of the fine should go to the informer.

The prohibition against hunting on the lands of another without permission was extended in 1705 to fishing, fowling or ranging, and for the third offense the penalty was commitment in the "common goal."

Even stream pollution was posing a problem as far back as 1705. A fine of "ten pounds current money" was levied on any person caught throwing any "dead negro or other person" into any river or creek. Again, the informer received his half. To what extent this law was due to a desire for clean waters or an effort to defend health or the public sensibilities we have no means of knowing. One thing is certain. Every age has its own pollution problems, and Virginia's began at the end of the first hundred years from John Smith.

At the outset of this excursion into forgotten history it was stated that the statutes are a reflection of the needs and desires of a people at any given point in history. It needs to be emphasized that laws are merely a reflection.

From time immemorial men have said "There ought to be a law." Whether or not they did something about it usually depended on the immediacy of their needs. Today conservation measures cannot be based on the same kind of impelling need which so frequently motivated early legislators. Since man seldom acts beyond his own self-interest, the essential ingredient in our times is education to create the desire and realization of actual, but sometimes not so obvious, needs. From now on the law at any particular moment will be a reflection of the extent of that educational effort.

RABIES

(Continued from page 7)

address it to the State Health Department Laboratory, Room 621, State Office Building, Richmond, Virginia, or to a Branch Laboratory of the State Health Department serving your district. Attach a note printed plainly to the outside of the package stating whether the dog was killed or whether it died, whether it had been acting strangely or had bitten any person or other animal. Give the name and address of the person to whom the laboratory report is to be sent.

Rabies may be diagnosed in the laboratory by observing Negri bodies (virus inclusion bodies) in brain tissue or by producing the disease in experimental animals by injecting infected material.

The results of the laboratory examination, when positive, are reported by telegram, collect, unless otherwise requested, and are confirmed by mail.

A report of POSITIVE means that microscopic examination of the dog's brain showed evidence of rabies.

A report of NEGATIVE does not mean necessarily that the animal did not have rabies. As stated earlier, in the early stages of the disease evidence of rabies may not be determined even upon microscopic examination of the brain. For this reason, the Health Department advises not to kill the animal if it can be avoided, but to confine it for a minimum of ten days. Then if it dies ship the head to the laboratory for examination.

Pasteur in 1885 introduced a method of vaccination to prevent rabies in persons bitten by rabid dogs. The usual treatment consists of fourteen daily injections of vaccine. In face bites it may be advisable to give daily injections for 21 days since this area is close to the brain. It is important to begin the treatment promptly, at least within the first few days after exposure.

It is apparent that the only way rabies will be brought under control in any area is through the reduction of the stray animal population and through the building up of natural resistance in susceptible animals.

Three counties which have proven the working value of local programs are Halifax, Pittsylvania, and Mecklenburg. These counties cut their rabies from a total of 70 cases in 1948 to a total of three cases in 1949.

When an epizootic of rabies became apparent in Fauquier County in March 1951, the Board of

Supervisors passed an emergency ordinance, providing for shooting of all foxes, stray cats, and stray unlicensed dogs for a period "until further notice." At the same time a series of free canine anti-rabies vaccination clinics were located in strategic areas of the county. They were operated during April, May, and June and paid for by the several hunt clubs. The Board of Supervisors in June ordered the clinics continued into July and to be paid for out of public funds.

The Board of Supervisors then passed a compulsory rabies vaccination ordinance which became effective January 1, 1952. The ordinance provides that no license tag shall be issued for any dog unless there is presented to the county treasurer, at the time application is made, evidence satisfactory to him showing that the dog has been vaccinated for rabies within the previous 12 months. During the first month the ordinance was in force the Board of Supervisors agreed to pay the cost of vaccination at clinics set up in the various sections of the county. Over 2,500 dogs were vaccinated in the free clinics during this time.

Rabies can be eradicated completely in the next few years if control measures are taken now. It is not expected that the disease will be wiped out entirely until such time as Virginia has a state-wide approach to rabies as it does in the control of smallpox, through vaccination. This major control measure is through local legislation, planned and enforced by local officials.

A local ordinance administered by the local health department and enforced by duly authorized city or county health officials, should include the following regulatory measures:

IMPOUNDING and destruction of all stray and ownerless dogs. This will require a local pound where stray dogs can be kept and, if unclaimed at the end of a few days, humanely destroyed.

VACCINATION of all dogs. Canine anti-rabies vaccination is necessary to a continuing control program. Present experimental work with canine vaccine gives promise of the production of a vaccine giving longer immunity than one year.

LICENSING of all dogs. This is an important feature of a successful anti-rabies program for several reasons. If properly enforced, it serves to defray the expenses of the work, assures a reasonably accurate dog census, rids the area of ownerless strays, and places the responsibility squarely upon the dog owner.

Science comes to

Game management is the art of making the land more productive for recreational use. Like other sciences it has become a learned, mature, and respected profession.

As society expands and science continues to advance, we must look to the technical expert for solutions to our problems. Here, in a modest pictorial way, is how.

(Comm)



The game division of the Commission is headed by technical experts. Here (left to right) C. F. Phelps, division chief, J. E. Thornton, assistant chief, and district biologist H. J. Tuttle make plans for special field operations.



Game management is now an accredited science. Technical training is offered at some 30 colleges, including V. P. I. Here Dr. H. S. Mosby instructs potential biologists in small mammal identification at Blacksburg.



Soil experts at SCS nursery at Sandy Levels study and test wildlife plants; recommend best strains to be grown and distributed by the Commission of Game and Inland Fisheries warden and technician personnel.



Sonndest approach to wildlife management, science claims, is more food and cover. Here Commission's giant bicolor lespedeza nursery is inspected by I. T. Quinn and staff. Commission supplies landowners with seed and plants.



Farm game restoration effort is based upon habitat improvement. Here the leader of the program, C. H. Shaffer (right) instructs new biologist, H. A. Little, on cooperative work.

Selling game management to the landowner is not too difficult. S.C.S. men and county wardens carry a big responsibility in the program. In three years 7000 landowners signed up for game cooperation.



Game Management

produce continued annual yields of wild game
modest beginning—but now it is a fully accred-

once the complexity of man's living, we must
many problems. Game management is one of
science is taking over in Virginia.

(photos)

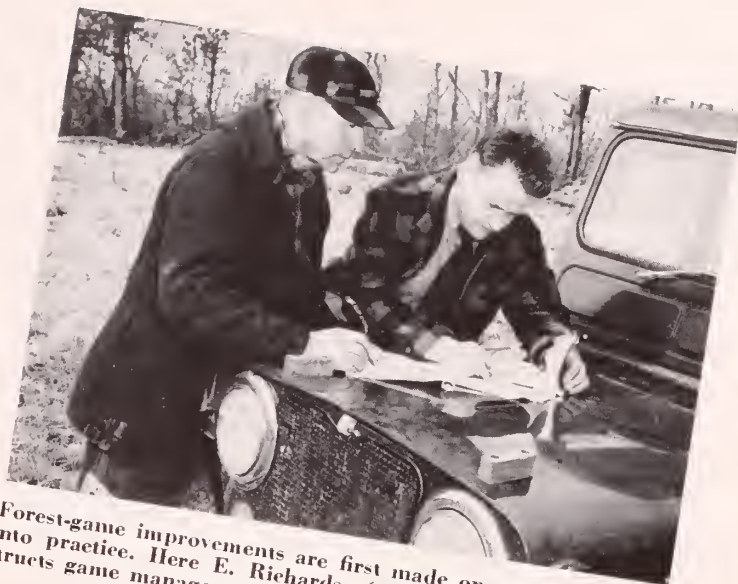


Bill Blackwell, biologist, runs equipment, intent on preparing the land for wildlife plantings. Hawfield is a demonstration area for good land management, and shows what can be done to return game.



Quail expert George Gehrken (left) points out to his companion the value of food and cover to wildlife. Quail studies are constantly in progress in many areas of the Old Dominion.

The big problem on national forests is encouraging plant growth conducive to game. Here R. H. Cross, game biologist, uses special equipment to make forest-game improvements by cultivating and seeding cleared areas.



Forest-game improvements are first made on paper, then put into practice. Here E. Richards, (right) game biologist, instructs game manager on clearing work to be done which will favor wildlife food and cover plants.



C. H. Peery, another wildlife biologist, instructs game managers on planting techniques in game clearings on the national forests in the western part of Virginia.



The science of waterfowl management is new—problems are many. Here waterfowl biologist C. P. Gilchrist, Jr. is carrying on weed-killing operations prior to planting duck foods at Hog Island.

The Marines Were

TOLD and SOLD

By C. O. TOTMAN

(Photos courtesy of Marine Corps Schools, Quantico)

DURING the winter of 1948 a grumbling group of U. S. Marines met in Colonel, now Brigadier General Cooley's office at the Marine Corps Air Station located at the Marine Corps Schools, Quantico, Virginia. Colonel Cooley had hunted and fished over much of the world and there were men there who could tell tales of ducks in Haiti, deer in Nicaragua, bustard in North China, tuna off Saipan, rainbows around Sitka and the great bear of Kodiak Island. These men were grumbling because each year the hunting on our 58,000 acre Marine Corps Schools Reservation was getting worse and the fishing was practically non-existent. The Colonel brought to their attention the fact that if any improvement was to be made it was up to those present. Everyone had some ideas, some good, but mostly bad. Some wanted to buy and stock game birds, others wanted to kill off all the foxes and all the hawks, still others thought we could buy some fish from some source to stock our streams. We decided that the best thing to do was to get authority from the Commandant of the Marine Corps Schools to organize a Rod and Gun Club and to have a fund with which to pay necessary expenses. It was decided that the club needed three main committees, one for the stream problems, one for the field problems, and one for entertainment and education.

The Commandant of Marine Corps Schools gave us his whole hearted support. In addition to authorizing a Rod and Gun Club he established an official Fish and Wildlife Committee which in addition to the three committees indicated had as members the post game warden, supply officer, and the special services officer. The duties required of members on

this committee were designated official additional duties which could be performed on government time. It was directed that the committee should meet monthly to prepare recommendations for the Commandant of the Schools for a fish and wildlife conservation program. The committee was also directed to establish and maintain liaison with the state and federal wildlife services and with the local game wardens.



"Trouty water is this section of Chopawansic Creek," says Major Rhinehart LEU.

As soon as the U. S. Fish and Wildlife Service heard from us they dispatched three of their top notch specialists to Quantico to meet with us, to investigate our problems and to indicate to us a proper course of action. These men were Dr. Lloyd Meehan, Chief of the Branch of Game-fish and Hatcheries, Richard Griffith, Branch of Wildlife Refugees, and Dr. Durward L. Allen, wildlife biologist from the Patuxent Research Refuge. After a few minutes, it was readily apparent to us that these men could tell it to the Marines, and after a short discussion of the current theories of fish and

wildlife management we all entered a helicopter and flew out onto the reservation for a reconnaissance of our fields, woods, and streams. The hunters were set down in a typical area which contained broom sedge, young pines, and a veritable jungle of briars and dewberry vines. We were shown on the ground where to plow, what to cut, and what to plant.

While the field committee was being sold on a habitat improvement program as the best and surest means of maintaining a strong healthy population of upland game, the fishermen looked over our two largest streams and some prospective farm fish pond sites.

Late that evening we flew back into the main base tired but happy. Each committee had a program outlined, because in addition to the habitat improvement program for the field committee, Dr. Meehean had outlined a trout and bass stocking program for our streams and a fish farming program for ponds which we could construct, and even our educational and entertainment committee was well launched, for our Fish and Wildlife Service friends said that they would be happy to come to our club meetings as guest lecturers.



The Marine Corps School's Rod and Gun Club farm fish pond. Note the wildlife food plantings in the upper center, left, and lower right.



Normally in cultivated fields plots are located on borders and edges. Here plots are run out into fields to supply safe routes for game.

In order to implement the programs outlined, much salesmanship and ingenuity have been required. Since no personnel have been provided in

the tables of organization for full time work we have had to borrow men and equipment from sympathetic unit commanders. We have been lucky and practically every unit has at one time or another provided men or equipment when they could be spared from their normal duties.

We were able to finish one farm fish pond and stocked it with bass and bluegills. Three other ponds, each adjacent to a temporary camp are under construction. These ponds not only provide recreation for our fishermen, but serve as a source of water in case of fire. One stream has been stocked with smallmouth black bass, and one stream has been turned into excellent trout water. The vision of Mr. Ancil Holloway, fisheries management biologist from the U. S. Fish and Wildlife Service, has made it possible for us to have excellent trout fishing here in the tidewater area of Virginia, where rainbow trout have never lived before. This has been made possible by letting the cold water out at the bottom of our main reservoir instead of allowing the hot surface water to run over the top of the dam. This gives us two miles of trout stream in which the temperature of the water never gets above 54°. Twenty-four hundred rainbows were taken from that stream by marines during the month of April. The stream is open to officers and enlisted men alike.

Charlie Gilchrist, Virginia game technician told us how to make and install wood duck nesting boxes and our communication section has done their bit for the program by installing 50 empty .30 caliber ammunition boxes in trees near our streams and ponds.

About 90 per cent of the reservation is covered by mixed oak and pine woods. This leaves little area available for quail hunting. The open areas are rapidly growing up to blackberry briars and pine. Phil Goodrum, wildlife biologist for the U. S. Fish and Wildlife Service has advocated a new and radical concept for locating food plots. It has been customary on agricultural lands to locate *Lespedeza bicolor* and other type of food plantings parallel with and adjacent to the edges of the woods and fence rows bordering the field. This results in a minimum of interference with the normal land use. On military lands, however, Mr. Goodrum has advocated that we extend our plantings perpendicular to the boundaries of the fields out into the center of the fields. In this way we give the quail a covered route right out into the center of the

(Continued on page 20)

A REPORT ON THE 1951-52 DEER, BEAR and TURKEY KILL

By CHESTER F. PHELPS

(Commission photos by Kesteloo)

THE PAST hunting season, generally favorable to all types of gunners, was particularly successful for the deer hunter. A record number of deer, mostly bucks, fell before the rifles and shotguns of sportsmen throughout the state. The tagging of big game, that is deer and bear, is nothing new to Virginia's hunters but for the first time the wild turkey gunner was also required to check his prize.

To obtain valuable kill data, checking stations were established in every county open to the hunting of deer, bear or turkey at convenient locations such as country stores, service stations and major cross-roads. The information so gathered on the size, sex and age class of the game tagged at the stations is of inestimable value to proper management and is being used by the Commission as the basis for many of our hunting regulations. Most stations checked all three species but at some, principally in southwest Virginia where the season on wild turkey is closed, only deer and bear were checked. Other stations in eastern Virginia counties, which have no bear in them and a closed season on deer, checked only turkey. The voluntary assistance of checking station operators, most of whom are non-hunters, is a tribute to the local cooperation enjoyed by the county game wardens under whose direction the stations are located and authorized.

The 1949-50 hunting season produced a deer kill of 7021, the highest figure of any year until 1951-52. During the 1949-50 season, however, it was legal to take doe deer in eight counties and 1264 of the 7021 state total legally taken were does. During the 1950-51 season the total deer kill was 5773 including 128 does taken in the one county in which they were legal. In 1951-52, does were legal game in two counties, Sussex and Halifax, and there 404 were bagged.

The year-to-year change in regulations governing the hunting of doe deer results from the effort of the Commission to arrive at a healthy balance in deer population and pressure against agricultural crops and natural range. When crop damage by deer is excessive the practical solution is to reduce the total herd and this can be accomplished only by an appropriate reduction in the number of does. Fortunately, the prospect of our present deer herds

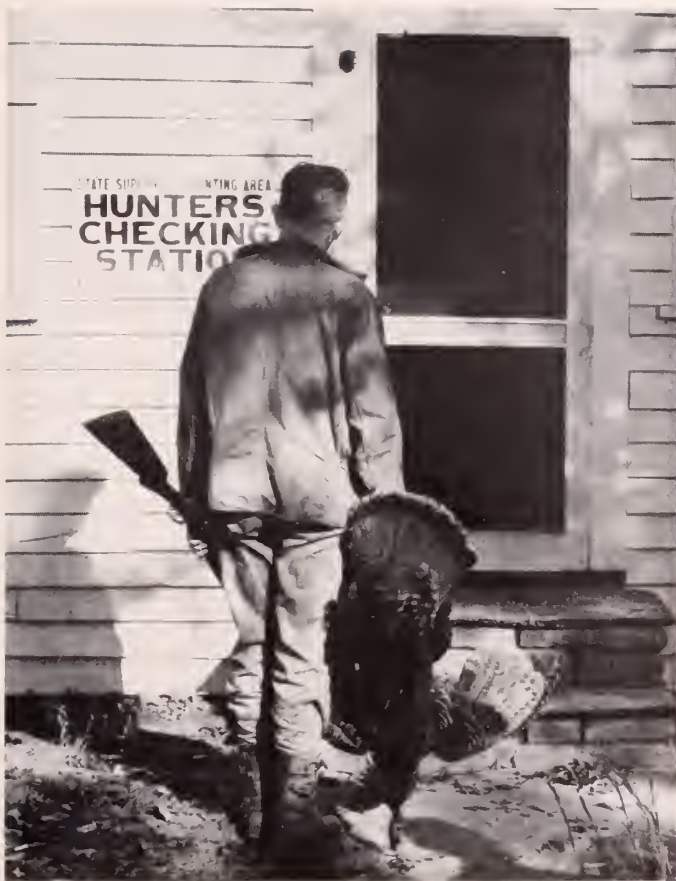
literally eating themselves into starvation by over browsing their range exists only in local areas, mainly west of the Blue Ridge. It is inevitable, however, that as Virginia's deer herds continue to grow, a corresponding number of areas must be opened to the hunting of does if we are to maintain the necessary balance between the number of deer and available food.

That our state-wide deer population is growing is readily evident from the records. A total of 5757 legal bucks were taken in 1949-50, 5645 in 1950-51, and 7110 in 1951-52. When one assumes that every buck killed represents at least one breeding doe left alive in the woods (the sex ratio of fawns being about equal) and that each mature doe can produce an average of one and one-half fawns per year, the arithmetical result in terms of deer within a few years, becomes startling. A glance at the accompanying table shows that the kill of bucks is rising yearly in almost every county, particularly those west of the Blue Ridge where the herds are the result of recent restocking.

Much other interesting and valuable data are obtained from the big game tags. For example, of the 90 deer killed in Alleghany County during 1950-51, 32 were killed by holders of state licenses,

To obtain valuable kill data, checking stations were established in every county open to hunting for turkey, deer, and bear.





In an initial step to learn more about our largest game bird, the Commission required all turkeys to be checked during the last season.

25 by hunters with county licenses, 3 by non-residents, and 30 not recorded. Of these, 37 were killed by shotgun, 53 by rifle. Nineteen deer were taken during the first day of the season, 18 the second, 6 the third, 23 the fourth, 8 the fifth, and 16 the last. Nine bucks had 3 points, 11 had 4 points, 4 had 5 points, 15 had 6 points, 3 had 7 points, 29 had 8 points, 7 had 9 points, 10 had 10 points, and 2 had 11 points.

GAME KILL BY COUNTIES

County	Season 1949-50		Season 1950-51		Season 1951-52		
	Deer	Bear	Deer	Bear	Deer	Bear	Turkey
Accomack	2				8		
Albemarle	36	1	41		55		50
Alleghany	46	11	64	29	90	12	21
Amelia	54		67		41		80
Amherst	4	7	5	6	37	6	15
Appomattox	31		26		37		46
Augusta	274	39	310	66	541	30	77
Bath	460	31	375	25	465	25	84
Bedford		1		1		2	4
Bland	11		15	2	16	5	
Botetourt	26	1	38	38	63	3	
Brunswick	19		10		23		28
Buchanan				1			
Buckingham	113		97		163		143
Campbell	4		1		3		24
Caroline	348		90		116		87
Charles City	200		195		255		12
Charlotte	21		17		26		71
Chesterfield	91		89		80		65
Craig	37	1	71	1	113	1	
Culpeper							29
Cumberland	88		36		62		43

County	Season 1949-50		Season 1950-51		Season 1951-52		
	Deer	Bear	Deer	Bear	Deer	Bear	Turkey
Dinwiddie	77		49		57		66
Essex	39		20		40		11
Fauquier							55
Fluvanna	14		14		17		40
Frederick	130		146		237		51
Giles	38		66		112		
Gloucester	35		46		36		
Goochland	11		19		25		22
Grayson	60	1	84		138		
Greensville	32		34		39		16
Halifax	409		279		227		101
Hanover	40		35		48		12
Henrico	19		6		18		4
Highland	106	8	67	9	107	11	44
Isle of Wight	31		24		50		
James City	164		137		195		9
King George	24		33		43		10
King and Queen	186		42		53		13
King William	375		92		97		1
Lancaster	10		11		12		
Lee	9		3		9		
Loudoun							2
Louisa	5		15		18		50
Lunenburg			1		6		25
Mathews	15		23		15		
Mecklenburg	19		16		9		53
Middlesex	9		12		21		
Nansemond	70		74	1	85	4	1
Nelson	12	10	15	8	24	10	32
New Kent	220		232		255		1
Norfolk	218	2	279		233	7	
Northumberland	5		7		17		
Nottoway			2		2		19
Orange							52
Page	22	5	34	11	65	1	2
Pittsylvania					1		10
Powhatan	38		26		34		67
Prince Edward	21		12		16		32
Prince George	621		143		228		31
Prince William							46
Princess Anne							
Richmond	28		28		24		
Roanoke	4		6		14		
Rockbridge	37	12	32	42	65	15	29
Rockingham	101	25	150	56	198	14	21
Scott	67		64		132		
Shenandoah	221	2	298	2	512		45
Smyth	96		156		225	2	
Southampton	370		287		322		23
Spotsylvania	18		28		50		122
Stafford							62
Surry	119		120		113		34
Sussex	702		603		650		52
Tazewell	8		33	1	21		
Warren	17		31		73		2
Warwick	16		9				
Washington	64		90		72		
Westmoreland	13		16		29		
Wise	85		83		109		
Wythe	34		39	2	48		
York	72		62		74		1
Totals	7021	157	5773	301	7514	148	2148

Similar information is available for every county in which deer hunting is legal. Each year the records become more valuable because they reflect more accurately the general trend in the game picture and spell out the proper management measures. Every deer hunter, be he primarily interested in meat or trophy, should check his deer and insist that his companions do likewise. It should be apparent that an increase in the yearly statewide bag will be reflected in a longer and more liberal open season. This has been the case west of the Blue Ridge, and every checked-in deer is an additional guarantee that regulations will be designed to insure the per-

petuation of deer hunting.

Compared to deer, little is known of the black bear. This lack of information together with the migratory habits of the species makes effective management difficult. Actually, the records obtained from the checking stations offer practically the only data available to the Commission as a basis for management.

As will be noted from the tabulation, the kill of bear is limited to a comparatively few counties, mostly west of the Blue Ridge. Of these the counties south of Roanoke show an irregular yearly pattern, probably because the majority of the few bears seen there are transient visitors from adjoining states rather than permanent residents. That the Old Dominion still offers a contiguity of urbanity and hunters' wilderness is shown by the annual kill of bear from the Dismal Swamp counties of Norfolk and Nansemond, both within a few minutes' drive of one of the South's largest cities, Norfolk.

Many thoughtful sportsmen have expressed concern over the future in Virginia of the bird Benjamin Franklin said should be our national emblem—the wild turkey.

From all available information it does appear that all is not well with the wild turkey. In large sections of the state the wild turkey is finding survival difficult, although in some areas populations are definitely increasing. In an initial step to learn more about our largest game bird, the Commission required all turkeys to be checked during the last season. While only one year's data are available and obviously no comparison is yet possible certain observations can be made. For one, with the sex of 166 birds unreported, the proportion of hen turkeys killed, 56 per cent seems somewhat high. This could be a true figure but on the other hand there is reason to believe that the lack of proper identification caused many young gobblers to be recorded as hens. The presence or absence of a beard is commonly accepted as indicating a gobbler or hen respectively but many young gobblers have no beards or else beards so short as to be almost indistinguishable. Actually, one of the most positive identifications is made by noting the coloration of the feathers covering the breast and back. In gobblers these will be tipped with black. In hens the feathers are tipped with brown.

As another observation, the recorded kill of turkeys in some counties is surprisingly small. Again this could be a true figure but it could also result

from many bagged turkeys not being checked. It is realized that compliance with the turkey checking regulation must be largely voluntary as evasion of the law would not be too difficult in many instances. It is also true, as during the first year or two of the deer tagging regulation, many persons were not aware that turkeys should be checked at one of the authorized stations. If the figures were known to be wholly accurate the kill in some counties would indicate a total population so small as to warrant a closed season. It is to be hoped that every turkey hunter will realize the importance of checking his kill and that the figures in future years will, for more reasons than one, show a continual and decided increase.

MARINES

(Continued from page 17)

field where they may obtain food which was not available in the past.

To insure that the state and federal game laws are observed, about thirty responsible marines including all ranks from private first class to colonel are appointed as deputy game wardens. These marines, being hunters and fishermen themselves, have a personal interest in the proper management of our game and fish. Their presence in the fields and along the streams has stopped much of the poaching by marines and civilians. The offer of a reward of \$50.00 to be paid by the Rod and Gun Club for evidence leading to the arrest and conviction of any person guilty of killing a deer stopped a deer jacking epidemic.

During the past three years since the habitat improvement program was started we have raised and transplanted 110,000 *Lespedeza bicolor* plants and have planted 30,000 additional plants furnished by the state of Virginia. Each year we have planted in addition at least one hundred food plots with annual grains, such as soy beans, buck wheat, milo, and millet. Each fall, winter wheat and rye is planted to provide winter greens for our turkeys.

This current spring, having got off to a good start, we are planting two hundred *Lespedeza bicolor* plots and two hundred annual grain plots.

As our members have been transferred from Quantico they have carried the gospel of wildlife management to their new posts and stations where they in turn initiated management programs, so that now we have throughout our service a progressive young group of marines who were "Told and Sold."

AWAY YOU ROLLING RIVER

(Continued from page 9)

did the sunshine. Eppy got snagged again and slopped some water into the raft getting out.

Swinging at anchor, the rest of us fished and watched Eppy wading back to get his wobbler unstuck. Suddenly he lost his footing and went down on one knee. He got up right away, but we could see he wasn't happy. And with good reason, too. There was a nice little two inch cut right through his waders at the knee, and his leg was full of wet Shenandoah river water.

Pete began to worry. According to the rules, we should have been loaded—fish, that is, and everybody should have had his limit. We weren't impatient, though. Life was too pleasant just drifting along on that soft couch. Presently we came around a bend into a set of little rapids. Ever sat on the bottom of rubber raft going through rapids? It's fun as long as the current keeps you in the channel. When you've got a caboose like mine, it increases the draught of the so-called boat, and when you "drift" over a shallow spot, it feels as though somebody had given you a not-too-friendly kick in the pants. There were lots of rapids, and I began to feel like the low man on a spanking machine. There was one compensation. Almost every time we got near some rapids, somebody had a strike. The fish seemed to hang in little pockets just above the fast water, and they'd hit anything. Pete finally hung two nice smallmouth on a Tony Ascetta # 13, and I scored with a spoon and pork rind. The three fish might have run about two pounds each, but in that fast water, it was all anybody wanted to do to keep them coming in the right direction and finally into the raft.

Suddenly it occurred to us that four or so miles upstream in the car, didn't necessarily mean four miles on the river. We went around bend after bend as the river snaked over the countryside, and it began to get a little boring. There seemed to be an awful lot of those little rapids, and every time we hit one, it meant lifting the raft over into deeper water. What had seemed fun at first, began to be quite a chore about the twentieth time. Besides, that breeze was getting cold now, and it was getting late—almost six o'clock. I began to wonder what had happened to that nice four and a half hour drift that had been so carefully "planned."

Nothing is so pleasant as the Virginia countryside at noon-time of a day in early fall. The banks of the leisurely streams are a picturesque tangle of honeysuckle vine and old moss-covered logs, mem-

ories of the spring freshets of forgotten years. Along about six o'clock in the evening of an October day, that picturesque tangle of this and that turns into a shadowy jungle that takes you right back to New Guinea. It gets chilly, and the water is blamed cold. And that artist's delight, the colorful mist, turns into fog. Did I say fog? I did—with a Capital F. It came rolling out of the honeysuckle swamps and steaming up from the surface of the river till I couldn't see Pete in the front of the raft. And it got colder. Everybody stopped fishing and started to shiver. And presently Eppy recalled that not too far below our "planned" landing point there was a big dam and falls. We started to think about that, and every little rapids that lay around the continuing elbows sounded like the spillway of the Grand Coulee. Of course we couldn't see a thing by now what with the darkness and the fog, so we had to stay close to the right bank and take in all the little coves and estuaries. No more drifting down the middle with the current, no indeed! Not with that dam somewhere down there in the darkness. There were little islands, snags in the water, nice muddy shallow places where you sank up to the hips when you tried to drag the raft through a weedbed, and once an old broken down pier with some sunken hulks of what used to be rowboats. We cheered up at that, 'cause it seemed to us if there was a pier there, there must also be a path to it. Fond hope! Harold went scouting and practically lost himself in the jungle, nearly broke a leg in the swamp, and didn't find the way out. He came back most unhappy, and we went on drifting in the cold wet fog. We tried watching for lights. There weren't any. Houses? None of those either; besides we couldn't have seen them anyway. The electric lantern was getting dimmer and dimmer, and would hardly throw a beam ten feet. Talk about desolation! We couldn't believe one could feel so lost and alone so close to civilization. And then the fog lifted—just for an instant, and we scanned the shoreline with the fading beam of the lantern. Bless that kleenex. We couldn't be sure we saw it, and we wouldn't believe it even when we felt it with our several hands, but there it was, damp and matted, welcome beyond all dreams! And the car—and the dry clothes—and best of all, the good old Piggery. If you want to see something beautiful, just gaze at a nice Virginia pig farm at 11:30 p. m. ablaze with that modern miracle of science—electric lights. Try it again? Oh yes, there are fish in the Shenandoah—and other things, especially at night.

Virginia's Inland Fish Series

THE WALLEYE

(*Stizostedion vitreum vitreum*)



ORIGINALLY THE WALLEYE, or pike perch, was strictly a northern species of fish inhabiting the fresh waters from Lake Champlain, northward into Canada and westward into Minnesota, southward to the Mississippi Valley and the Great Lakes basin. Through artificial propagation and distribution, however, it now inhabits waters of 32 of the 48 states.

Large whitish glassy eyes and strong canine teeth well portray the walleye, a member of the perch group. At the end of the front dorsal fin there is a single black blotch, which will aid in its identification. It is distinguished from the pike family by its two dorsal fins, rather than the single one possessed by the pike.

The walleye is inclined to be nocturnal in its feeding habits and leaves the deeper waters as night approaches to feed around the shallows. They prefer deep, clear-flowing water with rock, gravel or sand bottoms, and are usually found in schools in deep holes, in rivers and lakes. Pools under falls and below rapids are excellent places to find them, as well as at the bottom of reefs and ledges.

Like their cousin, the yellow perch, the walleye is a spring spawner, spawning in large rivers and lakes; in the rivers, striking upstream migrations accompany the advent of the breeding season. The female dashes along the shore, rolling and twisting while strewing eggs at random; the males follow in her

wake, milting and fertilizing the eggs. The eggs average around 50,000 per female and hatch in about three weeks when water temperatures range about 50°F. In about 10 days the yolk sac is absorbed and the fry begin feeding on tiny water "fleas." Soon predator feeding begins and small fish are taken.

The world's record walleye, caught on rod and reel, was taken by Patrick E. Noon, at Fort Erie, Ontario, Canada, on May 26, 1943, and it weighed 22 pounds and 4 ounces. Walleyes will average two to five pounds the country over, but in certain sections the average will be higher. In Virginia's Claytor Lake the average weight is about one pound, although the largest taken was 33 inches long and weighed about 12 pounds. Walleyes are principally found in the New River basin in Virginia.

This fish ranks high on the table of delicacies, and even the most particular gourmet would class the walleye as one of the finest. Since its natural tendencies cause it to seek out the cleaner, swifter waters, the walleye is consistently delicious.

It will eat most anything that moves in the water, caring little for size or shape. It will often attack a bass every bit as large as itself. No doubt high on the list of reasons the walleye is still with us in goodly numbers is its prolific nature, and its ability to live on almost any type of aquatic life.

Virginia's Game Bird Series

THE WOOD DUCK

(*Aix sponsa*)



INDISPUTABLY the drake wood duck is the most beautiful of all our wildfowl. And it is entirely our own. Peculiar to North America, it breeds across the continent but winters mainly in the southern states. Mere words fail to do justice to its resplendent and iridescent plumage.

The wood duck is the only member of the sub-family of river and pond ducks which habitually nest in trees. It prefers hollow trees close to water, but if such are not available, it will make its home farther away. It takes readily to nesting boxes erected in suitable locations.

One of the most successful projects for the benefit of the wood duck has been the placing of artificial nest boxes along streams and marshes, especially where there is a shortage of natural tree dens.

As many as 31 eggs have been found in a nest; but no doubt they were the products of two or more females, for the average clutch is from 10 to 15. Incubation takes from 28 to 31 days and is performed by the female alone.

The young are born in a hollow cavity of a tree, sometimes 50 feet above the ground, and the question has often arisen as to how they get to the ground, since they are unable to fly. Kortwright, in his book, *Ducks, Geese, and Swans*, has this to say, "Apparently the usual method is for the little fellows to jump out and flutter down as best they can;

their light, resilient little bodies, with tiny wings and feet spread out to check the fall, come to no harm. They first use their sharp little claws to climb from the nest which may be six or eight feet below the opening, and at the call of the mother duck below simply jump for it."

Although the wood duck is often seen on open stretches of water or marshy land, its usual feeding grounds are along the banks of woodland streams and ponds. Here it feeds upon the seeds of various trees and shrubs and wanders deep into the woods in search of nuts, grapes, and berries. It is particularly partial to chestnuts, beechnuts, and acorns, which it swallows whole. Contrary to the habits of most ducks, molluscs, snails, and bivalves are seldom taken. They are fond of spiders and in some stomachs examined, spiders represented as much as 75 or 80 per cent of the contents.

The wood duck has always been persecuted by man; not alone for its flesh, which is good, but for its feathers which are used in the making of artificial trout flies, and for millinery purposes. The woods which shelter it have been cut, and the ponds and swamps in which it feeds have been drained and reclaimed. As a result this lovely species, formerly so abundant, was brought to the point of extinction. Timely legislation, however, saved it and the wood duck, through the protection afforded by law, is once more becoming common throughout the land.



National Forest Receipts Increase

According to Burr P. Harrison, Congressman representing the Seventh Virginia District, the money returned to Virginia as a result of special uses and the sale of timber and other products from the George Washington National Forest during the fiscal year ending June 30, 1951, amounted to \$30,000.18. This represents 25 percent of the total Forest receipts, and is an increase of \$6,154.42 over the previous year. An additional \$12,000.00 will be returned directly to the National Forest to be used in maintaining the Forest road and trail system.

Tazewell High School Orders 88 Bird Booklets

In a major move to spread the doctrine of wildlife conservation in Tazewell County G. O. McGhee, principal of Tazewell High School, sent the Commission a check of \$22 for 88 copies of the Commission's publication "Birdlife of Virginia."

Mr. McGhee stated that since the county had received their portion of the 5000 booklets distributed by the Commission of Game and Inland Fisheries through the State Board of Education to the schools of the state, and since Tazewell High School's allotment was only two, they felt that additional copies of this publication should be made available to the student body.

The Case of the \$4000 Deer

Sometimes it takes a lot of convincing to convince a man he shouldn't violate the game laws of the state, but no doubt there are four men residing in Virginia that are confirmed in their belief that it doesn't pay.

Harry King and C. P. Montgomery, conservation officers, Basil R. Belschers, sheriff of Prince George County, his brother Herbert, the Alexandria State Police, W. Frances Binford, trial justice of Prince George County, and Commonwealth Attorney Frank L. Wycke are all to be congratulated on their combined efforts in bringing to justice four men for killing a deer at night, and on Sunday, out of season, with a rifle and transporting it in an automobile from Prince George County.

Nick and Alex Walsuk, Yale, Virginia, Earl Moehring, Alexandria, and Andrew Mitrison, Alexandria, were all convicted on the above named charges and

paid \$708 fines and costs. A 1951 Chevrolet, owned by Alex Walsuk and a 1950 Pontiac, owned by Earl Moehring were confiscated by officers for using them to illegally transport the deer. A 30-30 caliber rifle belonging to Nick Walsuk, and a 35 caliber rifle belonging to Earl Moehring, valued at \$100 each, were also confiscated.

One illegally killed deer cost these men approximately \$4000. No doubt they are convinced that it just doesn't pay to violate the game laws in Virginia.

Warty Deer Found in New Kent

During the early part of January, members of the State Road Commission reported to Herman Tuttle, Commission game technician, that there was a dead deer lying along U. S. Route #33, in New Kent County.

Upon investigating the report, Tuttle and Ned Thornton, assistant chief of the game division, found that the deer had apparent wounds, and that it was completely covered with large, callous-like growths, commonly referred to as 'warts.'

The deer was blinded in one eye by a growth, and apparently its ability to eat was inhibited.

This is the first case of deer tumors reported in Virginia within several years. The disease is thought to be *Papillomas*, or common warts, a condition occurring in all species of animals, but most common in man, cattle, dogs, and rabbits.



Commission photo by Bowers

Herman Tuttle, game technician (left) and Ned Thornton, assistant chief of the game division, are shown inspecting the wart covered deer found in New Kent County.



UNCONTROLLED DOGS MENACE WILDLIFE

Dickenson's County game warden Otto D. Kendrick reports that uncontrolled, free-ranging dogs are a menace to wildlife. He sends pictures to prove his point. Both of the whitetails shown in the following photos were victims of loose-running dogs.

A good dog is man's best friend. A wild or uncontrolled dog can be



TOP PHOTO: A young doe killed by stray dogs in Dickenson County.

BOTTOM PHOTO: This deer escaped from stray dogs, but not before it had been badly mangled. Note how right hind leg has been chewed off.

his mortal enemy. So goes for dogs and wildlife. Carefully supervised and controlled dogs are of no particular danger to wild animals and birds. Yet relax the control and you have terror on the loose. A killer. A menace far worse than any wild creature itself.

Each year Virginia landowners suffer heavily from dog damages. Poultry and sheep raisers are the most common sufferers. Last year, for instance, one county alone paid out \$12,000 in damages for the destruction of sheep and poultry by dogs.

Another unfortunate angle to this whole thing is that very often bear and bobcats are blamed for the damage done by dogs. A further persecution of our wildlife!

Staunch conservationists, in every community, should come to the defense of wildlife and the landowner and see to it that wild, free-roving dogs are kept under control or eliminated.

HOW MANY QUAIL WILL YOUR LICENSE FEE BUY?

It is unfortunate that more of those sportsmen who gripe about high hunting license fees and then demand that the state release more pen-raised birds cannot examine the 165-page report of an exhaustive study conducted by the Kentucky Division of Fish and Game, according to the Wildlife Management Institute.

It costs approximately \$4.00 for the state to produce and liberate one huntable quail. During 1947 and 1948, a total of 1,070 birds were released on 1,000-acre study areas at an average initial cost of \$1.00 each, but only one-fourth survived

until the hunting season, which opened six or seven weeks later; so the actual cost of each bird was \$4.00. Even where the highest survival was recorded, 70 per cent on one study area, the cost would be \$1.40 each for birds distributed from the game farms.

Supplying chicks to sportmen's clubs for raising to release age was only slightly more satisfactory from the standpoint of economics. The cost to the state is only 25 cents for each chick, but survival to release age is no more than 75 per cent, which increases the cost of each bird liberated to 33 cents, aside from club expenses. Since only one-fourth of these birds survive until the hunting season, the actual investment climbs to \$1.30 for each bird available to the hunter. The price of Kentucky's statewide hunting license is \$3.00.

In this same study, the practice of releasing birds to supplement wild breeding stock also was tested and found wanting. From five to eight per cent of the birds survived until spring on the average area. The cost of breeding birds therefore was between \$12.50 and \$20.00 each. Assuming that one pair of \$12.50 birds produced twelve young, all of which survived to the hunting season, the cost of the offspring still would be \$1.78 for each bird.

Robert A. Pierce who served as project leader of the three-year Pittman-Robertson investigation found some other interesting facts. Many released coveys quickly dispersed; one adventuresome pair was found a quarter of a mile from the release site less than two hours after being liberated.



for
Students
Teachers
Parents

Wildlife Ramblings

In orientating the public on conservation we sometimes become too absorbed in the one phase labeled game conservation. As a result we forget, or neglect, the seemingly minor phase of preserving the plantlife upon which game is dependent.

Wildflowers may not play as great a role in the food chain of our game animals as other plants, but they are ultimately a part of the game animals' diet. Insects, consumed by birds and mammals alike, are dependent upon wildflowers for food and these plants, in turn, thrive only as a result of pollination by the insects. Each is an interdependent part of the whole.

Wildflowers are picked superfluously by some who, unthinkingly, take for granted an inexhaustible supply. They are free and abundant and can be easily replenished in the home by simply seeking them in the nearest woods areas.

How long will they be plentiful and free? Only by judicious treatment can they survive as an added glory to the beauty of Nature.

Take a walk through the woodlands this month and keep in mind the esthetic and practical values of our wildflowers. You will notice that one of the first to bloom is the three-lobed hepatica, a fiery-pink violet. Because of the short stems it is inconspicuous, but it is truly one of the heralds of spring.

The yellow dog-toothed violet, or trout lily, blossoms close on the heels of the hepatica. Large groups of these yellow flowers can be found throughout the forest, and it is difficult to realize that seven years is necessary to attain their bell-shaped flowers.

Bloodroot, spring beauties, red and white trillium, orchids, and countless

other wildflowers can be found in swamp and forest each spring, and they all add their delicate touch to the landscape. They are priceless and should be safeguarded against unreasonable picking.

If we must pick, handle, or disturb wildflowers, let us adopt a rule by which such action can be justified. If twelve of the same blossoms can be counted within one sight range, then it is safe to pick one. Thus their kind will be assured of survival.



"Keep knocking, they must be home!"

BIRD OF THE MONTH

The Maryland Yellowthroat

What shall be the bird of the month? The answer is easy, the Maryland yellowthroat. It appears suddenly in early April, and in a few days it is all over the state. And wherever it goes it is singing, "Witchity, witchity, witch."

A trim little fellow it is, brownish olive-gray above, with yellow throat and breast, and lower underparts whitish. No wing-bars. The adult male has a mask of black that stretches across the face

from low on either side of the neck. Above the black is a line of gray. The female lacks these head markings. From tip of bill to tip of tail he measures 4.6 to 5.3 inches. He is just a bit smaller than a chipping sparrow.

Living in the low wet bushes, it sings there. And there, close to the ground, the female builds her nest and rears her family. Watch where it sings; the nest is not far away. Watch where it disappears with insects or worms; the nest is close. Then go and look carefully. The odds are 100 to 1 you will not find it. Indeed, in this connection someone has quoted, "Not to the swift is the race."

A nervous, inquisitive little fellow, the yellowthroat does a lot of travelling within a very limited space. As it peeps out from the thicket, its beady eye shining from behind the black mask, you realize that it is as much interested in you as you are in it.

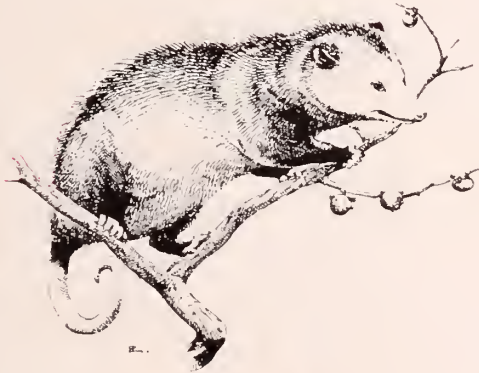
The yellowthroat sings all summer long, even into October. Then, about the middle of the month, he is gone. But not too far. Possibly it will stop in the Carolinas; possibly it will go to Mexico or Central America. A few remain all winter in lower Tidewater Virginia. I saw one in Dinwiddie County on January 1, 1951.

Do You Know . . . ?

The cuckoo, which places its eggs in the nests of other and smaller birds, does this through necessity. The largest of the insectivorous birds, it requires a large quantity of food, keeping it constantly on the search. If it sat on its eggs, it could not obtain this food; if it left its eggs, they would become chilled.

Some

COMMON FURBEARERS of VIRGINIA



OPPOSSUM

Probably one of the most common, unmanaged furbearers.



MINK

Sly and elusive, this animal ranks high on the list of valuable furs.



WEASEL

This blood thirsty furbearer feeds on mice, as well as poultry.



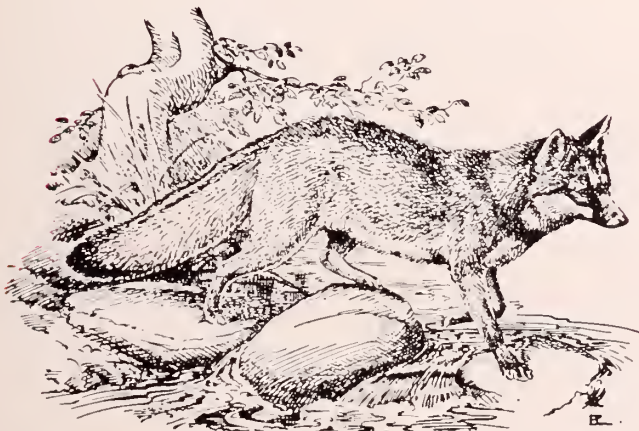
MUSKRAT

America's number one furbearer is this marsh resident.



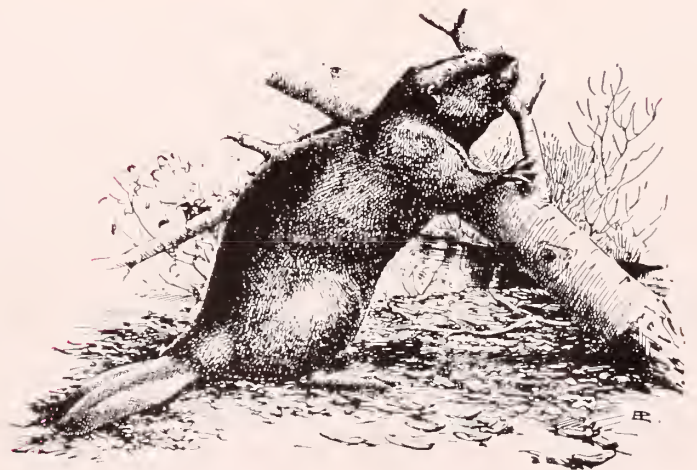
SKUNK

This cute fellow feeds heavily on grubs and insects.



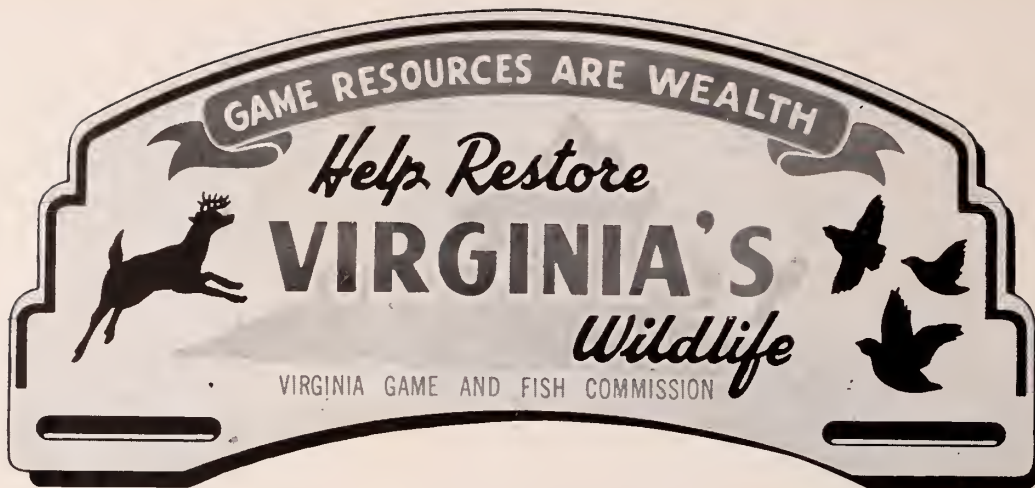
FOX

After years of persecution, the fox still holds his own.



BEAVER

Once extinct in Virginia, the beaver is coming back.



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